SEQUENCE LISTING

<100> GENERAL INFORMATION
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<120> METHOD OF DETERMINING A BACTERIUM SPECIES
<160> NUMBER OF SEQ ID NOS: 145

<200> SEQUENCE CHARACTERISTICS:
<210> SEQ ID NO 1
<211> LENGTH 1383
<212> TYPE: DNA
<213> ORGANISM: Mycobacterium abscessus
<400> SEQUENCE 1

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 121 aggaccacac acttcatggt gagtggtgca aagcttttgc ggtgtgggat gagcccgcgg
 181 cctatcagct tgttggtggg gtaatggccc accaaggcga cgacgggtag ccggcctgag
 241 agggtgaccg gccacactgg gactgagata cggcccagac tcctacggga ggcagcagtg
 301 gggaatattg cacaatgggc gcaagcctga tgcagcgacg ccgcgtgagg gatgacggcc
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 421 ggaccggcca actacgtgcc agcagccgcg gtaatacgta gggtccgagc gttgtccgga
 481 attactgggc gtaaagagct cgtaggtggt ttgtcgcgtt gttcgtgaaa actcacagct
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1261 agtcgctagt aatcgcagat cagcaacgct gcggtgaata cgttcccggg ccttgtacac
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1381 gga
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<200> SEQUENCE CHARACTERISTICS:
<210> SEQ ID NO 2
<211> LENGTH 1454
<212> TYPE: DNA
<213> ORGANISM: Mycobacterium avium
<400> SEQUENCE 2

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 121 ctgggaaact gggtctaata ccggatagga cctcaagacg catgtcttct ggtggaaagc
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 421 gtccgggttt tctcggattg acggtaggtg gagaagaagc accggccaac tacgtgccag
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 541 taggtggttt gtcgcgttgt tcgtgaaatc tcacggctta actgtgagcg tgcgggcgat
 601 acgggcagac tagagtactg caggggagac tggaattcct ggtgtagcgg tggaatgcgc
 661 agatatcagg aggaacaccg gtggcgaagg cgggtctctg ggcagtaact gacgctgagg
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 841 cgcctgggga gtacggccgc aaggctaaaa ctcaaaggaa ttgacggggg cccgcacaag
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1441 tcggcgattg ggac
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<200> SEQUENCE CHARACTERISTICS:
<210> SEQ ID NO 3
<211> LENGTH 1421
<212> TYPE: DNA
<213> ORGANISM: Mycobacterium bovis
<400> SEQUENCE 3

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 361 gcgtggggga tgacggcctt cgggttgtaa acctctttca ccatcgacga aggtccgggt
 421 tctctcggat tgacggtagg tggagaagaa gcaccggcca actacgtgcc agcagccgcg
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 601 actagagtac tgcaggggag actggaattc ctggtgtagc ggtggaatgc gcagatatca
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 781 gtgtgggttt ccttccttgg gatccgtgcc gtagctaacg cattaagtac cccgcctggg
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 901 catgtggatt aattcgatgc aacgcgaaga accttacctg ggtttgacat gcacaggacg
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<200> SEQUENCE CHARACTERISTICS:
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<211> LENGTH 1439
<212> TYPE: DNA
<213> ORGANISM: Mycobacterium chelonae
<400> SEQUENCE 4

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 121 tgggaaactg ggtctaatac cggataggac cacacacttc atggtgagtg gtgcaaagct
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 421 gaaagtgacg gtacctacag aagaaggacc ggccaactac gtgccagcag ccgcggtaat
 481 acgtagggtc cgagcgttgt ccggaattac tgggcgtaaa gagctcgtag gtggtttgtc
 541 gcgttgttcg tgaaaactca cagcttaact gtgggcgtgc gggcgatacg ggcagactag
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1321 gaatacgttc ccgggccttg tacacaccgc ccgtcmcgtc atgaaagtcg gtaacacccg
1381 aagccagtgg cctaaccttt tggagggagc tgtcgaaggt gggatcggcg attgggacg
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<200> SEQUENCE CHARACTERISTICS:
<210> SEQ ID NO 5
<211> LENGTH 1482
<212> TYPE: DNA
<213> ORGANISM: Mycobacterium farcinogenes
<400> SEQUENCE 5

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 901 ttaattcgat gcaacgcgaa gaaccttacc tgggtttgac atgcacagga cgccagtaga
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1321 atacgttccc gggccttgta cacaccgccc gtcacgtcat gaaagtcggt aacacccgaa
1381 gccggtggcc taacccttgt ggagggagcc gtcgaaggtg ggatcggcga ttgggacgaa
1441 gtcgtaacaa ggtagccgta ccggaaggtg cggctggatc ac
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<200> SEQUENCE CHARACTERISTICS:
<210> SEQ ID NO 6
<211> LENGTH 1449

<212> TYPE: DNA
<213> ORGANISM: Mycobacterium fortuitum
<400> SEQUENCE 6

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 121 tctaataccg aatatgaccg cgcacttcct ggtgtgtggt ggaaagcttt tgcggtgtgg
 181 gatgggcccg cggcctatca gcttgttggt ggggtaatgg cctaccaagg cgacgacggg
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 301 ggaggcagca gtggggaata ttgcacaatg ggcgcaagcc tgatgcagcg acgccgcgtg
 361 agggatgacg gccttcgggt tgtaaacctc tttcaatagg gacgaagcgc aagtgacggt
 421 acctatagaa gaaggaccgg ccaactacgt gccagcagcc gcggtaatac gtagggtccg
 481 agcgttgtcc ggaattactg ggcgtaaaga gctcgtaggt ggtttgtcgc gttgttcgtg
 541 aaaactcaca gcttaactgt gggcgtgcgg gcgatacggg cagactagag tactgcaggg
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1261 ccccgtgaag tcggagtcgc tagtaatcgc agatcagcaa cgctgcggtg aatacgttcc
1321 cgggccttgt acacaccgcc cgtcacgtca tgaaagtcgg taacacccga agccggtggc
1381 ctaacccttg tggagggagc cgtcgaaggt gggatcggcg attgggacga agtcgtaaca
1441 aggtagccg
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<200> SEQUENCE CHARACTERISTICS:
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<211> LENGTH 1461
<212> TYPE: DNA
<213> ORGANISM: Mycobacterium gordonae
<400> SEQUENCE 7

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  61 aacgggtgag taacacgtgg gtaatctgcc ctgcacatcg ggataagcct gggaaactgg
 121 gtctaatacc gaataggacc acaggacaca tgtcctgtgg tggaaagctt ttgcggtgtg
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 421 tcgggctgac ggtaggtgga gaagaagcac cggccaacta cgtgccagca gccgcgntaa
 481 tacgtagggt gcgagcgttg tccggaatta ctgggcgtaa agagctcgta ggtggtttgt
 541 cgcgttgttc gtgaaatctc acggcttaac tgtgagcgtg cggncgatac gggcagactt
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 661 gaacaccggt ggcgaaggcg ggtctctggg cagtaactga cgctgaggag cgaaagcgtg
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 841 acggcngcaa ggctaaaact caaagaaatt gacgggggnc cgcacaagcg gcggagcatg
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1261 gtctgcaact cgaccccgtg aagtcggagt cgctagtaat cgcagatcag caacgctgcg
1321 gtgaatacgt tcccgggcct tgtacacacc gcccgtcacg tcatgaaagt cggtaacacc
1381 cgaagccagt ggcctaacct ttgggaggga gctgtcgaag gtgggatcgg cgattgggac
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<200> SEQUENCE CHARACTERISTICS:
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<211> LENGTH: 1527
<212> TYPE: DNA
<213> ORGANISM: Mycobacterium heckeshornense
<400> SEQUENCE 8

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 121 gcacttcggg ataagcctgg gaaactgggt ctaataccgg ataggaccgc gccatgcatg
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 241 ggtggggtga tggcctacca aggcgacgac gggtagccgg cctgagaggg tgtccggcca
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 361 atgggcgcaa gcctgatgca gcgacgccgc gtgggggatg acggccttcg ggttgtaaac
 421 ctctttcacc atcgacgaag ccgcagcttt tgttgtggtg acggtaggtg gagaagaagc
 481 accggccaac tacgtgccag cagccgcggt aatacgtagg gtgcaagcgt tgtccggaat
 541 tactgggcgt aaagagctcg taggcggctt gtcgcgttgt tcgtggaatg ccacagctta
 601 actgtgggcg tgcgggcgat acgggcaggc tggagtgctg caggggagac tggaattcct
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 781 agtccacgcc gtaaacggtg ggtactaggt gtgggttctt tcctgaagga tccgtgccgt
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1081 acgagcgcaa cccttgtccc atgttgccag cacgtgatgg tggggactca tgggagactg
1141 ccggggtcaa ctcggaggaa ggtggggatg acgtcaagtc atcatgcccc ttatgtccag
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1381 ccgcccgtca cgtcatgaaa gtcggtaaca cccgaagccc atggcccaac ccgtttggga
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<200> SEQUENCE CHARACTERISTICS:
<210> SEQ ID NO 9
<211> LENGTH 1452
<212> TYPE: DNA
<213> ORGANISM: Mycobacterium intracellulare
<400> SEQUENCE 9

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  61 gtaacacgtg ggcaatctgc cctgcacttc gggataagcc tgggaaactg ggtctaatac
 121 cggataggac ctttaggcgc atgtctttag gtggaaagct tttgcggtgt gggatgggcc
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 301 cagtggggaa tattgcacaa tgggcgcaag cctgatgcag cgacgccgcg tggggatga
 361 cggccttcgg gttgtaaacc tctttcacca tcgacgaagg tccgggtttt ctcggattga
 421 cggtaggtgg agaagaagca ccggccaact acgtgccagc agccgcggta atacgtaggg
 481 tgcgagcgtt gtccggaatt actgggcgta aagagctcgt aggtggtttg tcgcgttgtt
 541 cgtgaaatct cacggcttaa ctgtgagcgt gcgggcgata cgggcagact agagtactgc
 601 aggggagact ggaattcctg gtgtagcggt ggaatgcgca gatatcagga ggaacaccgg
```

```
 661 tggcgaaggc gggtctctgg gcagtaactg acgctgagga gcgaaagcgt ggggagcgaa
 721 caggattaga taccctggta gtccacgcng taaacggtgg gtactaggtg tgggtttcct
 781 tccttgggat ccgtgccgta gctaacgcat taagtacccn gcctggggag tacggccgca
 841 aggctaaaac tcaaaggaat tgacgggggc cngcacaagc ggcggagcat gtggattaat
 901 tcgatgcaac gcgaagaacc ttacctgggt ttgacatgca caggacgcgt ctagagatag
 961 gcgttcccct gtggcctgtg tgcaggtggt gcatggctgt cgtcagctcg tgtcgtgaga
1021 tgttgggtta agtcccgcaa cgagcgcaac ccttgtctca tgttgccagc gggtaatgcc
1081 ggggactcgt gagagactgc cggggtcaac tcggaggaag gtggggatga cgtcaagtca
1141 tcatgcccct tatgtccagg gcttcacaca tgctacaatg gccggtacaa agggctgcga
1201 tgccgcaagg ttaagcgaat ccttttaaag ccggtctcag ttcggattgg ggtctgcaac
1261 tcgaccccat gaagtcggag tcgctagtaa tcgcagatca gcaacgctgc ggtgaatacg
1321 ttcccgggcc ttgtacacac cgcccgtcac gtcatgaaag tcggtaacac ccgaagccag
1381 tggcctaacc cttgggaggg agctgtcgaa ggtgggatcg gcgattggga cgaagtcgta
1441 acaaggtagc cg
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<200> SEQUENCE CHARACTERISTICS:
<210> SEQ ID NO 10
<211> LENGTH 1463
<212> TYPE: DNA
<213> ORGANISM: Mycobacterium kansasii
<400> SEQUENCE 10

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   1 gcggcgtgct taacacatgc aagtcgaacg gaaaggtctc ttcggagaca ctcgagtggc
  61 gaacgggtga gtaacacgtg ggcaatctgc cctgcacacc gggataagcc tgggaaactg
 121 ggtctaatac cggataggac cacttggcgc atgccttgtg gtggaaagct tttgcggtgt
 181 gggatgggcc cgcggcctat cagcttgttg gtggggtgac ggcctaccaa ggcgacgacg
 241 ggtagccggc ctgagagggt gtccggccac actgggactg agatacggcc cagactccta
 301 cgggaggcag cagtggggaa tattgcacaa tgggcgcaag cctgatgcag cgacgccgcg
 361 tgggggatga cggccttcgg gttgtaaacc tctttcacca tcgacgaagg tccgggttct
 421 ctcggattga cggtaggtgg agaagaagca ccggccaact acgtgccagc agccgcgnta
 481 atacgtaggg tgcgagcgtt gtccggaatt actgggcgta aagagctcgt aggtggtttg
 541 tcgcgttgtt cgtgaaatct cacggcttaa ctgtgagcgt gcgngcgata cgggcagact
 601 agagtactgc aggggagact ggaattcctg gtgtagcggt ggaatgcgca gatatcagga
 661 ggaacaccgg tggcgaaggc gggtctctgg gcagtaactg acgctgagga gcgaaagcgt
 721 ggggagcgaa caggattaga taccctggta gtccacgcng taaacggtgg gtactaggtg
 781 tgggtttcct tccttgggat ccgtgccgta gctaacgcat taagtacccc gcctggggag
 841 tacggcngca aggctaaaac tcaaaggaat tgacgggggn ccgcacaagc ggcggagcat
 901 gtggattaat tcgatgcaac gcgaagaacc ttacctgggt ttgacatgca caggacgcgt
 961 ctagagatag gcgttcccct gtggcctgtg tgcaggtggt gcatggctgt cgtcagctcg
1021 tgtcgtgaga tgttgggtta agtcccgcaa cgagcgcaac ccttgtctca tgttgccagc
1081 gggtaatgcc ggggactcgt gagagactgc cggggtcaac tcggaggaag gtggggatga
1141 cgtcaagtca tcatgcccct tatgtccagg gcttcacaca tgctacaatg gccggtacaa
1201 agggctgcga tgccgcgagg ttaagcgaat ccttttaaag ccggtctcag ttcggatcgg
1261 ggtctgcaac tcgaccccgt gaagtcggag tcgctagtaa tcgcagatca gcaacgctgc
1321 ggtgaatacg ttcccgggcc ttgtacacac cgcccgtcac gtcatgaaag tcggtaacac
1381 ccgaagccag tggcctaacc ctcgggaggg agctgtcgaa ggtgggatcg gcgattggga
1441 cgaagtcgta acaaggtagc cgt
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<200> SEQUENCE CHARACTERISTICS:
<210> SEQ ID NO 11
<211> LENGTH 1321
<212> TYPE: DNA
<213> ORGANISM: Mycobacterium kubicae
<400> SEQUENCE 11

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   1 gtgcttaaca catgcaagtc gaacggaaag gcccccttcgg gggtactcga gtggcgaacg
  61 ggtgagtaac acgtgggtga tctaccctgc acttcgggat aagcctggga aactgggtct
 121 aataccggat aggaccatga gatgcatgtc ttatggtgga aagcttttgc ggtgtgggat
 181 gggcccgcgg cctatcagct tgttggtggg gtgacggcct accaaggcga cgacgggtag
 241 ccggcctgag agggtgtccg gccacactgg gactgagata cggcccagac tcctacggga
 301 ggcagcagtg gggaatattg cacaatgggc gcaagcctga tgcagcgacg ccgcgtgggg
 361 gatgacggcc ttcgggttgt aaacctcttt cagcagggac gaagcgcaag tgacggtacc
 421 tgcagaagaa gcaccggcca actacgtgcc agcagccgcg gtaatacgta gggtgcgagc
 481 gttgtccgga attactgggc gtaaagagct cgtaggtggt ttgtcgcgtt gttcgtgaaa
 541 accgggggct taaccctcgg cgtgcgggcg atacgggcag actggagtac tgcaggggag
 601 actggaattc ctggtgtagc ggtggaatgc gcagatatca ggaggaacac cggtggcgaa
 661 ggcgggtctc tgggcagtaa ctgacgctga ggagcgaaag cgtggggagc gaacaggatt
 721 agataccctg gtagtccacg ccgtaaacgg tgggtactag gtgtgggttt ccttccttgg
 781 gatccgtgcc gtagctaacg cattaagtac cccgcctggg gagtacggcc gcaaggctaa
 841 aactcaaagg aattgacggg ggcccgcaca agcggcggag catgtggatt aattcgatgc
 901 aacgcgaaga accttacctg ggtttgacat gcacaggacg cgtctagaga taggcgttcc
 961 cttgtggcct gtgtgcaggt ggtgcatggc tgtcgtcagc tcgtgtcgtg agatgttggg
1021 ttaagtcccg caacgagcgc aacccttgtc tcatgttgcc agcgggtaat gccggggact
1081 cgtgagagac tgccggggtc aactcggagg aaggtgggga tgacgtcaag tcatcatgcc
1141 ccttatgtcc agggcttcac acatgctaca atggccggta caaagggctg cgatgccgcg
1201 aggttaagcg aatcctttta aagccggtct cagttcggat cggggtctgc aactcgaccc
1261 cgtgaagtcg gagtcgctag taatcgcaga tcagcaacgc tgcggtgaat acgttcccgg
1321 g
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<200> SEQUENCE CHARACTERISTICS:
<210> SEQ ID NO 12
<211> LENGTH 501
<212> TYPE: DNA
<213> ORGANISM: Mycobacterium lentiflavum
<400> SEQUENCE 12

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   1 tggagagttt gatcctggct caggacgaac gctggcggcg tgcttaacac atgcaagtcg
  61 aacggaaagg cctcttcgga ggtactcgag tggcgaacgg gtgagtaaca cgtgggtaat
 121 ctgccctgca cttcgggata agcctgggaa actgggtcta ataccggata ggacctttg
 181 gcgcatgcct tttggtggaa agcttttgcg gtgtgggatg ggcccgcggc ctatcagctt
 241 gttggtgggg tgacggccta ccaaggcgac gacgggtagc cggcctgaga gggtgtccgg
 301 ccacactggg actgagatac ggcccagact cctacgggag gcagcagtgg ggaatattgc
 361 acaatgggcg caagcctgat gcagcgacgc cgcgtggggg atgacggcct tcgggttgta
 421 aacctctttc agcagggacg aagcgcaagt gacggtacct gcagaagaag caccgccaac
 481 tacgtgccag cagccgcggt a
```

<200> SEQUENCE CHARACTERISTICS:
<210> SEQ ID NO 13
<211> LENGTH 1455
<212> TYPE: DNA
<213> ORGANISM: Mycobacterium mucogenicum
<400> SEQUENCE 13

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   1 gacgaacgct ggcggcgtgc ttaacacatg caagtcgaac ggaaaggccc ttcggggtac
  61 tcgagtggcg aacgggtgag taacacgtgg gtgatctgcc ctgcactttg ggataagcct
 121 gggaaactgg gtctaatacc gaataggacc acgcgcttca tggtgtgtgg tggaaagctt
 181 ttgcggtgtg ggatgggccc gcggcctatc agcttgttgg tggggtaatg gcctaccaag
 241 gcgacgacgg gtagccggcc tgagagggtg accggccaca ctgggactga gatacggccc
 301 agactcctac gggaggcagc agtggggaat attgcacaat gggcgcaagc ctgatgcagc
 361 gacgccgcgt gagggatgac ggccttcggg ttgtaaacct ctttcaatag ggacgaagcg
 421 caagtgacgg tacctataga agaagcaccg gccaactacg tgccagcagc cgcggtaata
```

```
 481 cgtagggtgc gagcgttgtc cggaattact gggcgtaaag agctcgtagg tggtttgtcg
 541 cgttgttcgt gaaaactcac agcttaactg tgggcgtgcg ggcgatacgg gcagactaga
 601 gtactgcagg ggagactgga attcctggtg tagcggtgga atgcgcagat atcaggagga
 661 acaccggtgg cgaaggcggg tctctgggca gtaactgacg ctgaggagcg aaagcgtggg
 721 gagcgaacag gattagatac cctggtagtc cacgccgtaa acggtgggta ctaggtgtgg
 781 gttccttcct tgggatccgt gccgtagcta acgcattaag taccccgcct ggggagtacg
 841 gccgcaaggc taaaactcaa aggaattgac gggggcccgc acaagcggcg gagcatgtgg
 901 attaattcga tgcaacgcga agaaccttac ctgggtttga catgcacagg acgccggcag
 961 agatgtcggt tcccttgtgg cctgtgtgca ggtggtgcat ggctgtcgtc agctcgtgtc
1021 gtgagatgtt gggttaagtc ccgcaacgag cgcaaccctt gtcctatgtt gccagcgggt
1081 tatgccgggg actcgtagga gactgccggg gtcaactcgg aggaaggtgg ggatgacgtc
1141 aagtcatcat gccccttatg tccagggctt cacacatgct acaatggccg gtacaaaggg
1201 ctgcgatgcc gtgaggtgga gcgaatcctt tcaaagccgg tctcagttcg gatcggggtc
1261 tgcaactcga ccccgtgaag tcggagtcgc tagtaatcgc agatcagcaa cgctgcggtg
1321 aatacgttcc cgggccttgt acacaccgcc cgtcacgtca tgaaagtcgg taacacccga
1381 agccggtggc ctaacccttg tggagggagc cgtcgaaggt gggatcggcg attgggacga
1441 agtcgtaaca aggta
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<200> SEQUENCE CHARACTERISTICS:
<210> SEQ ID NO 14
<211> LENGTH 1415
<212> TYPE: DNA
<213> ORGANISM: Mycobacterium paraffinicum
<400> SEQUENCE 14

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   1 cgtgcttaac acatgcaagt cgaacggaaa ggcccccttcg ggggtactcg agtggcgaac
  61 gggtgagtaa cacgtnngca atctgccctg cacttcggga taagcctggg aaactgggtc
 121 taataccgga taggaccact tggcgcatgc cttgtggtgg aaagcttttg cggtgtggga
 181 tgggcccgcg gcctatcagc ttgttggtgg ggtgatggcc taccaaggcg acgacgggta
 241 gccggcctga gagggtgtcc ggccacactg ggactgagat acggcccaga ctcctacggg
 301 aggcagcagt ggggaatatt gcacaatggg cgcaagcctg atgcagcgac gccgcgtggg
 361 ggatgacggc cttcgggttg taaacctctt tcaccatcga cgaaggctca cttcgtgagt
 421 tgacggtagg tggagaagaa gcaccggcca actacgtgcc agcagccgcg gtaatacgta
 481 gggtgcgagc gttgtccgga attactgggc gtaaagagct cgtaggtggt ttgtcgcgtt
 541 gttcgtgaaa tctcacggct taactgtgag cgtgcgggcg atacgggcag actagagtac
 601 tgcaggggag actggaattc ctggtgtagc ggtggaatgc gcagatatca ggaggaacac
 661 cggtggcgaa ggcgggtctc tgggcagtaa ctgacgctga ggagcgaaag cgtggggagc
 721 gaacaggatt agataccctg gtagtccacg ccgtaaacgg tgggtactag gtgtgggttt
 781 ccttccttgg gatccgtgcc gtagctaacg cattaagtac cccgcctggg gagtacggcc
 841 gcaaggctaa aactcaaagg aattgacggg ggcnngnaca agcggcggag catgtggatt
 901 aattcgatgc aacgcgaaga accttacctg ggtttgacat gcacaggacg cgtctagaga
 961 taggcgttcc cttgtggcct gtgtgcaggt ggtgcatggc tgtcgtcagc tcgtgtcgtg
1021 agatgttggg ttaagtcccg caacgagcgc aacccttgtc tcatgttgcc agcgggtaat
1081 gccggggact cgtgagagac tgccggggtc aactcggagg aaggtgggga tgacgtcaag
1141 tcatcatgcc ccttatgtcc agggcttcac acatgctaca atggccggta caaagggctg
1201 cgatgccgca aggttaagcg aatccttta aagccggtct cagttcggat cggggtctgc
1261 aactcgaccc cgtgaagtcg gagtcgctag taatcgcaga tcagcaacgc tgcggtgaat
1321 acgttcccgg gccttgtaca caccgcccgt cacgtcatga aagtcggtaa cacccgaagc
1381 cagtggccta acccttggga gggagctgtc gaagg
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<200> SEQUENCE CHARACTERISTICS:
<210> SEQ ID NO 15
<211> LENGTH 1484
<212> TYPE: DNA
<213> ORGANISM: Mycobacterium simiae

<400> SEQUENCE 15

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       1 ggcggcgtgc ttaacanatg caagtcgaac ggaaaggccc cttcgggggt actcgagtgg
      61 cgaacgggtg agtaacacgt gggtaatctg ccctgcactt cgggataagc ctgggaaact
     121 gggtctaata ccggatagga ccacttggcg catgccttgt ggtggaaagc ttttgcggtg
     181 tgggatgggc ccgcggccta tcagcttgtt ggtggggtga cggcctacca aggcgacgac
     241 gggtagccgg cctgagaggg tgtccggcca cactgggact gagatacggc ccagactnct
     301 acgggaggca gcagtgggga atattgcaca atgggcgcaa gcctgatgca gcgacgccgc
     361 gtgggggatg acggccttcg ggttgtaaac ctctttcagc agggacgaag cgcaagtgac
     421 ggtacctgca gaagaagcac cggccaacta cgtgccagca gccgcggtaa tacgtagggt
     481 gcgagcgttg tcnggaatta ctgggcgtaa agagctcgta ggtggtttgt cgcgttgttc
     541 gtgaaaaccg ggggcttaac cctcggcgtg cgggcgatac gggcagactg gagtactgca
     601 ggggagactg gaattcctgg tgtagcggtg gaatgcgcag atatcaggag gaacaccggt
     661 ggcgaaggcg ggtctctggg cagtaactga cgctgaggag cgaaagcgtg gggagcgaac
     721 aggattagat accctggtag tccacgcngt aaacggtggg tactaggtgt gggtttcctt
     781 ccttggaatc cgtgccgtag ctaacgcatt aagtaccccg cctggggagt acggccgcaa
     841 ggctaaaact caaaggaatt gacgggggnc cgcacaagcg gcggagcatg tggattaatt
     901 cgatgcaacg cgaagaacct tacctgggtt tgacatgcac aggacgccgg cagagatgtc
     961 ggttcccttg tggcctgtgt gcaggtggtg catggctgtc gtcagctcgt gtcgtgagat
    1021 gttgggttaa gtcccgcaac gagcgcaacc cttgtctcat gttgccagcg ggtaatgccg
    1081 gggactcgtg agagactgcc ggggtcaact cggaggaagg tggggatgac gtcaagtcat
    1141 catgcccctt atgtccaggg cttcacacat gctacaatgg ccggtacaaa gggctgcgat
    1201 gccgcaaggt taagcgaatc cttttaaagc cggtctcagt tcggatcggg gtctgcaact
    1261 cgaccccgtg aagtcggagt cgctagtaat cgcagatcag caacgctgcg gtgaatacgt
    1321 tcccgggcct tgtacacacc gcccgtcacg tcatgaaagt cggtaacacc cgaagccagt
    1381 ggcctaacct tttggaggga gctgtcgaag gtgggatcgg cgattgggac gaagtcgtaa
    1441 caaggtagcc gtaccggaag gtgcggctgg atcacctcct ttct
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<200> SEQUENCE CHARACTERISTICS:
<210> SEQ ID NO 16
<211> LENGTH 1462
<212> TYPE: DNA
<213> ORGANISM: Mycobacterium szulgai
<400> SEQUENCE 16

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       1 ggcggcgtgc ttaacacatg caagtcgaac ggaaagnccc cttcgggnta ctcgagtggc
      61 gaacgggtga gtaacacgtg ggtaatctgc cctgcacttc gggataagcc tgggaaactg
     121 ggtctaatac cggataggac cccgaggcgc atgccttggg gtggaaagct tttgcggtgt
     181 gggatgggcc cgcggcctat cagcttgttg gtggggtgac ggcctaccaa ggcgacgacg
     241 ggtagccggc ctgagagggt gtccggccac actgggactg agatacggcc cagactcnta
     301 cgggaggcag cagtggggaa tattgcacaa tgggcgcaag cctgatgcag cgacgccgcg
     361 tgggggatga cggccttcgg gttgtaaacc tctttcacca tcgacgaagg tccgggtttt
     421 ctcggattga cggtaggtgg agaagaagca ccggccaact acgtgccagc agccgcggta
     481 atacgtaggg tgcgagcgtt gtccggaatt actgggcgta aagagctcgt aggtggtttg
     541 tcgcgttgtt cgtgaaatct cacggcttaa ctgtgagcgt gcggncgata cgggcagact
     601 ggagtactgc aggggagact ggaattcctg gtgtagcngt ggaatgcgca gatatcagga
     661 ggaacaccgg tggcgaaggc gggtctctgg gcagtaactg acgctgagga gcgaaagcgt
     721 ggggagcgaa caggattaga taccctggta gtccacgncg taaacggtgg gtactaggtg
     781 tgggtttcct tccttgggat ccgtgccgta gctaacgcat taagtacccc gcctggggag
     841 tacggcngca aggctaaaac tcaaaggaat tgacgggggn ccgcacaagc ggcggagcat
     901 gtggattaat tcgatgcaac gcgaagaacc ttacctgggt ttgacatgca caggacgcgt
     961 ctagagatag gcgttcccct gtggcctgtg tgcaggtggt gcatggctgt cgtcagctcg
    1021 tgtcgtgaga tgttgggtta agtcccgcaa cgagcgcaac ccttgtctca tgttgccagc
    1081 gggtaatgcc ggggactcgt gagagactgc cggggtcaac tcggaggaag gtggggatga
    1141 cgtcaagtca tcatgccccc tatgtccagg gcttcacaca tgctacaatg gccggtacaa
    1201 agggctgcga tgccgcgagg ttaagcgaat ccttttaaag ccggtctcag ttcggatcgg
    1261 ggtctgcaac tcgaccccgt gaagtcggag tcgctagtaa tcgcagatca gcaacgctgc
    1321 ggtgaatacg ttcccgggcc ttgtacacac cgcccgtcac gtcatgaaag tcggtaacac
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1381 ccgaagccag tggcctaacc cttgggaggg agctgtcgaa ggtgggatcg gcgattggga
1441 cgaagtcgta acaaggtagc cg

<200> SEQUENCE CHARACTERISTICS:
<210> SEQ ID NO 17
<211> LENGTH 1416
<212> TYPE: DNA
<213> ORGANISM: Mycobacterium tuberculosis
<400> SEQUENCE 17
1 ggcggcgtgc ttaacacatg caagtcgaac ggaaaggtct cttcggagat actcgagtgg
61 cgaacgggtg agtaacacgt gggtgatctg ccctgcactt cgggataagc ctgggaaact
121 gggtctaata ccggatagga ccacgggatg catgtcttct ggtggaaagc gctttagcgg
181 tgtgggatga gcccgcggcc tatcagcttg ttggtggggt gacggcctac caaggcgacg
241 acgggtagcc ggcctgagag ggtgtccggc cacactggga ctgagatacg gcccagactc
301 ctacgggagg cagcagtggg gaatattgca caatgggcgc aagcctgatg cagcgacgcc
361 gcgtggggga tgacggcctt cgggttgtaa acctctttca ccatcgacga aggtccgggt
421 tctctcggat tgacggtagg tggagaagaa gcaccggcca actacgtgcc agcagccgcg
481 gtaatacgta gggtgcgagc gttgtccgga attactgggc gtaaagagct cgtaggtggt
541 ttgtcgcgtt gttcgtgaaa tctcacggct taactgtgag cgtgcgggcg atacgggcag
601 actagagtac tgcaggggag actggaattc ctggtgtagc ggtggaatgc gcagatatca
661 ggaggaacac cggtggcgaa ggcgggtctc tgggcagtaa ctgacgctga ggagcgaaag
721 cgtggggagc gaacaggatt agataccctg gtagtccacg ccgtaaacgg tgggtactag
781 gtgtgggttt ccttccttgg gatccgtgcc gtagctaacg cattaagtac cccgcctggg
841 gagtacggcc gcaaggctaa aactcaaagg aattgacggg ggcccgcaca agcggcggag
901 catgtggatt aattcgatgc aacgcgaaga accttacctg ggtttgacat gcacaggacg
961 cgtctagaga taggcgttcc cttgtggcct gtgtgcaggt ggtgcatggc tgtcgtcagc
1021 tcgtgtcgtg agatgttggg ttaagtcccg caacgagcgc aacccttgtc tcatgttgcc
1081 agcacgtaat ggtggggact cgtgagagac tgccggggtc aactcggagg aaggtgggga
1141 tgacgtcaag tcatcatgcc ccttatgtcc agggcttcac acatgctaca atggccggta
1201 caaagggctg cgatgccgcg aggttaagcg aatccttaaa agccggtctc agttcggatc
1261 ggggtctgca actcgacccc gtgaagtcgg agtcgctagt aatcgcagat cagcaacgct
1321 gcggtgaata cgttcccggg ccttgtacac accgcccgtc acgtcatgaa agtcggtaac
1381 acccgaagcc agtggcctaa cccttgggag ggagct

<200> SEQUENCE CHARACTERISTICS:
<210> SEQ ID NO 18
<211> LENGTH 15
<212> TYPE: DNA
<213> ORGANISM: Synthetic construct
<400> SEQUENCE 18
TAACACATGCAAGTC

<200> SEQUENCE CHARACTERISTICS:
<210> SEQ ID NO 19
<211> LENGTH 16
<212> TYPE: DNA
<213> ORGANISM: Synthetic construct
<400> SEQUENCE 19
TTAACACATGCAAGTC

<200> SEQUENCE CHARACTERISTICS:
<210> SEQ ID NO 20
<211> LENGTH 17
<212> TYPE: DNA

<213> ORGANISM: Synthetic construct
<400> SEQUENCE 20
CTTAACACATGCAAGTC

<200> SEQUENCE CHARACTERISTICS:
<210> SEQ ID NO 21
<211> LENGTH 18
<212> TYPE: DNA
<213> ORGANISM: Synthetic construct
<400> SEQUENCE 21
GCTTAACACATGCAAGTC

<200> SEQUENCE CHARACTERISTICS:
<210> SEQ ID NO 22
<211> LENGTH 17
<212> TYPE: DNA
<213> ORGANISM: Synthetic construct
<400> SEQUENCE 22
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<200> SEQUENCE CHARACTERISTICS:
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<400> SEQUENCE 113
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<400> SEQUENCE 114
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<400> SEQUENCE 122
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<400> SEQUENCE 126
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<200> SEQUENCE CHARACTERISTICS:
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<400> SEQUENCE 135
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